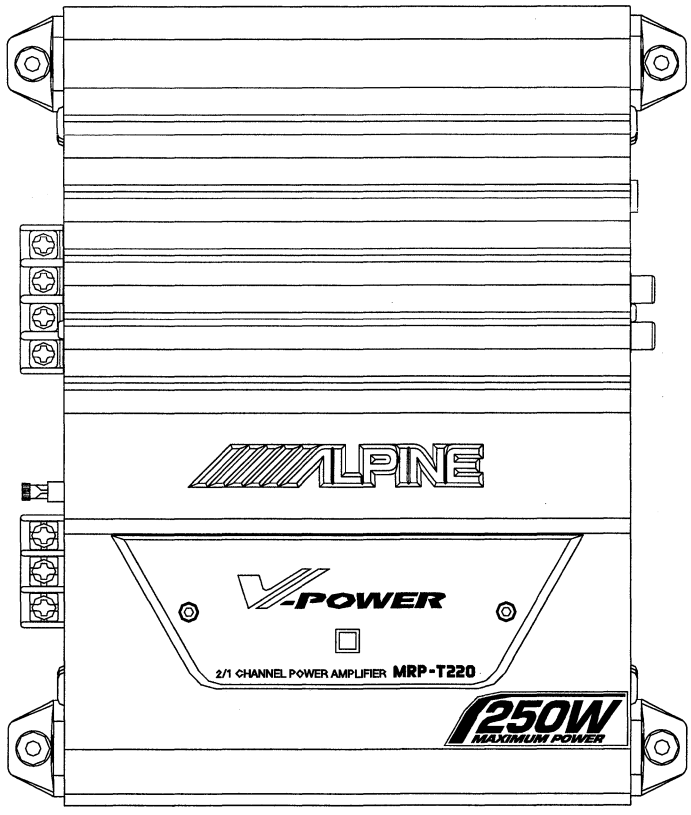
ALPI-00814

ALPINE

SERVICE MANUAL

2/1 CHANNEL POWER AMPLIFIER



1 / 03-A
68E35051S01

MRP-T220

<Cautions for Safe Repair Work>

The following cautions will prevent accidents in the workplace and will ensure safe products.
*The symbols indicate caution is needed to prevent injuries and damage to property.
The symbols and their meanings follow.

Warning	If you ignore this symbol and handle the product incorrectly or unsafely, serious injury or death may result.
Caution	If you ignore this symbol and handle the product incorrectly or unsafely, injury or only material damage may result.

*The following symbols indicate two levels of cautions.

	When you see this symbol, you have to be very careful.
	When you see this symbol, you have to follow the instructions there.

Warning

Do not look squarely into the laser light coming from the pickup. You may loose you sight.	**Fuse Caution** Always use a designated fuse. Use of an incorrect fuse may result in a fire.

Caution

Do not allow wiring to be caught in the screw/chassis. If wiring is caught in the screw/chassis, it may cause a short circuit, resulting in a fire.	**Battery Caution** Use the designated battery. Confirm the correct polarity and seat of the battery. An incorrect battery or an improperly connected or seated battery may result in a fire.
High Temperature Caution Touching the heat sink may cause severe burns.	**Designated Parts Caution** Look up the part list and ensure that only designated parts are used to prevent problems or accidents.
Reverse Power Supply Connections or Misconnections Caution Reverse power supply connections or misconnections may cause ignition problems and smoke may result.	**Wiring Caution** Ensure that the wiring is correct when rewiring to prevent problems with ignition/breakdown.
Soldering Caution Hot solder from solder splash may cause severe burns.	**Wear Gloves** Wear gloves to prevent electrical shocks or injury from the end face of the metal.

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NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

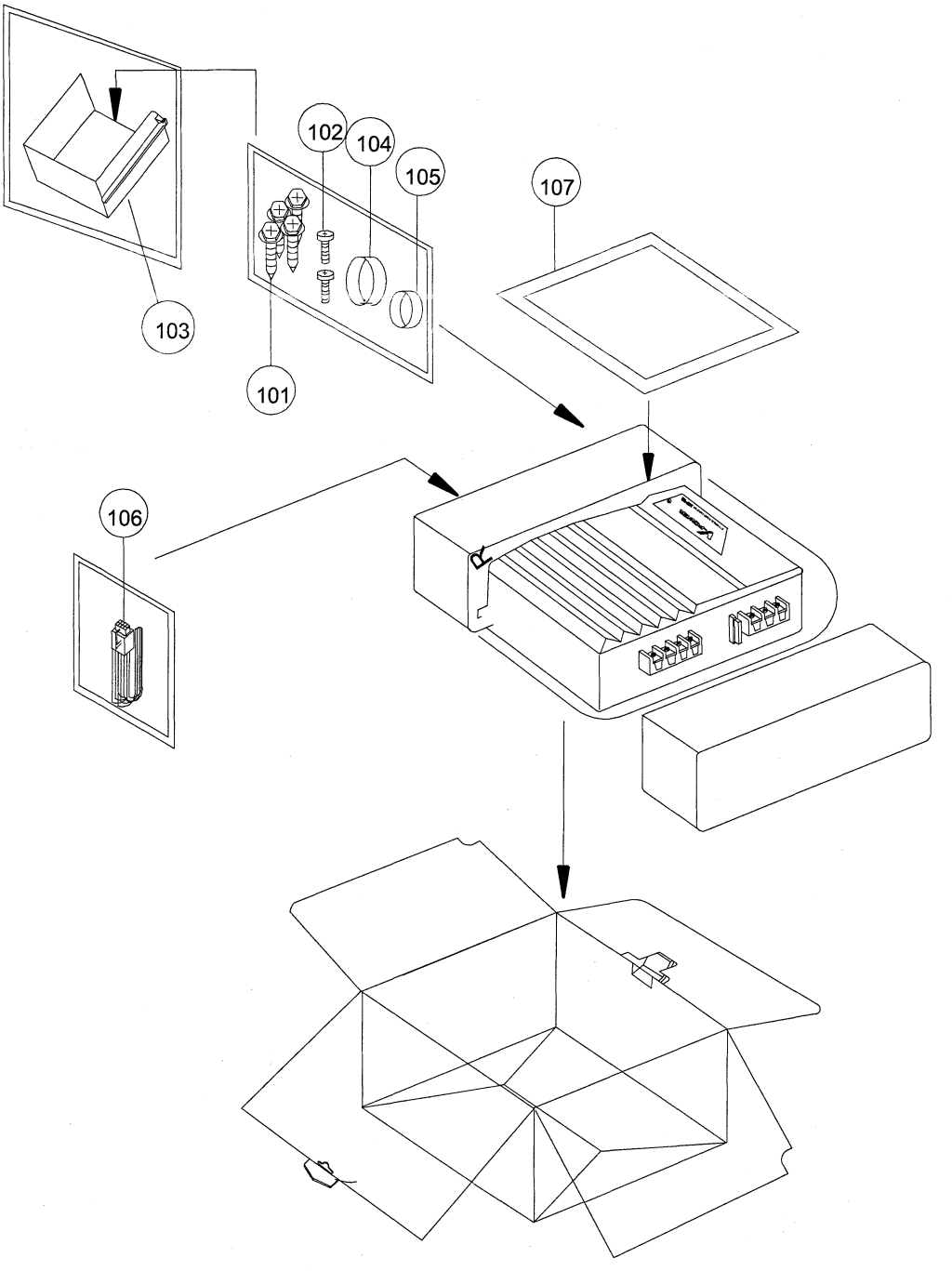
Packing Assembly Parts List

Symbol No.	Part No.	Description
101	03E34961S01	SCR,M4X20 TPG1(BLK)
102	03E34955S01	SCR,M3X10(B)MCH(BLK)
103	15E34956S01	COVER,RCA
104	28E20925S01	HOUSING RUBBER-A
105	75E22439S01	HOUSING RUBBER-B

Symbol No.	Part No.	Description
106	01E24042S01	ASS'Y KIT SP-IN WIRE
#1 107	68P02294K68	OWNER'S MANUAL
$1 107-1	68P02294K72	OWNER'S MANUAL(GE)
$1 107-2	68P02294K73	OWNER'S MANUAL(I,G,S)

NOTE : #1 : For North American Model Only, $1 : For General Foreign Model Only, Others : Common.

Packing Method View



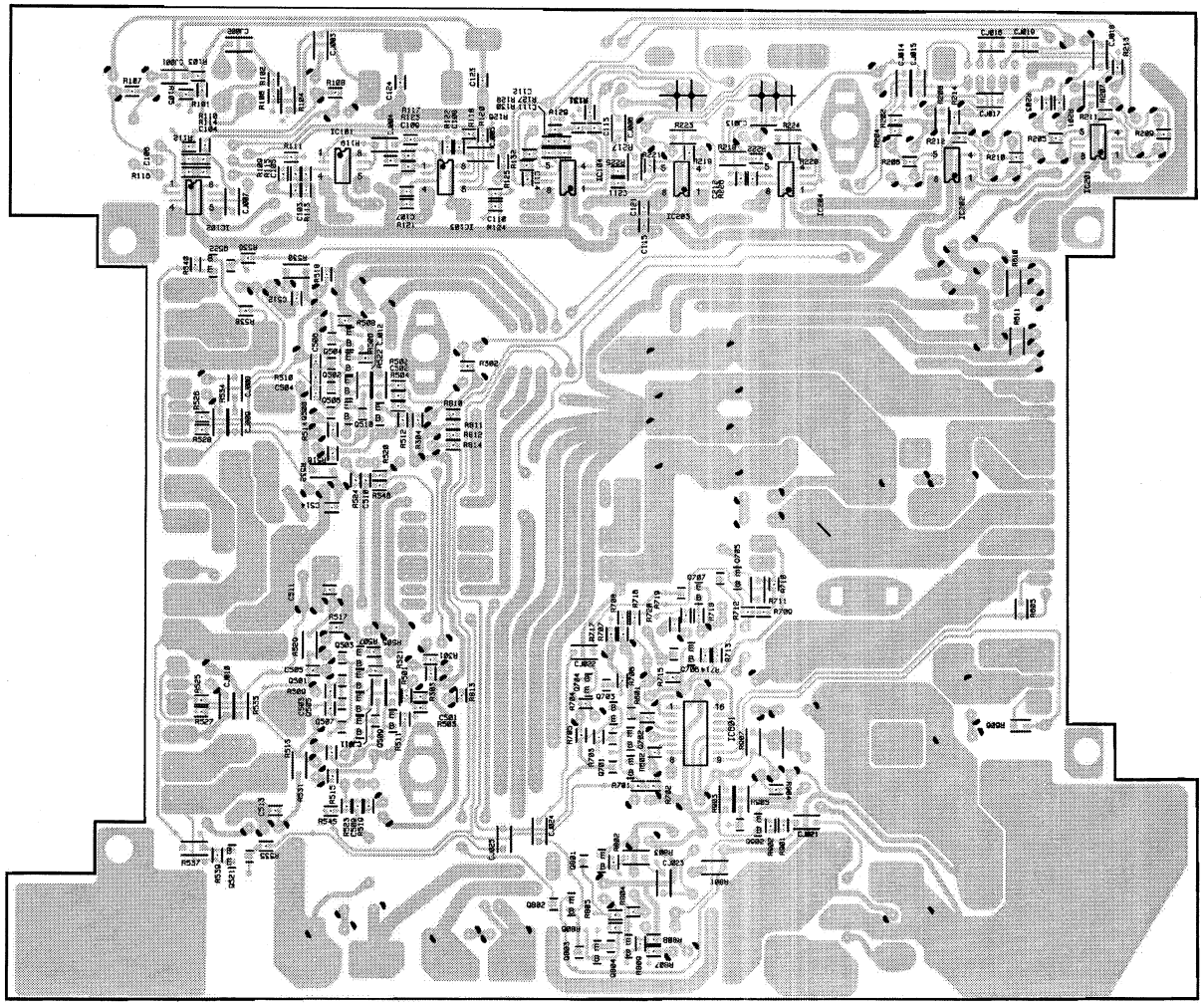
Specifications

T.H.D. (Stereo, 20Hz/1kHz/20kHz)	40W/ch, 4ohm-2channel, 14.4V : 0.2%
(BTL, 20Hz/1kHz/20kHz)	100W/ch, 4ohm-1channel, 14.4V : 1.0%
Power Output (Stereo, 20Hz/1kHz/20kHz)	4ohm-2channel, 0.2% T.H.D., 14.4V : 40W
(BTL, 20Hz/1kHz/20kHz)	4ohm-1channel, 1.0% T.H.D., 14.4V : 100W
S/N Ratio (Ref. Output 40W/4ohm, Input shorted)	94dB
Input Sensitivity (40W Output, GAIN-VR (CENTER POSITION))	RCA-INPUT : 1.2V±5dB
	SP-INPUT : 2.3V±5dB
Input Impedance	13.8±2k ohm
Frequency Response (0±1dB, Ref. 1kHz)	20Hz to 40kHz
Current Drain	No Signal : 1.5A
	4ohm-2channel, 10% T.H.D. : 20A
Residual Noise (Input Shorted, 4ohm-2channel)	VR CENTER : 3mV
Channel Separation (Input Shorted, 1kHz, 40W x 2channel)	55dB
Remote on Voltage (1W Output)	6.5 +1, -1.5V
Remote Current Drain	3mA Max
Back Up Current Drain	1.2mA
Fuse Requirement	20A (For Battery Line)
Power Source	DC14.4V (9 to 16V)
Dimensions (W x H x D)	205.6 x 60 x 241.4mm
Weight	1.88kg

NOTE : Due to Continuing product improvement, specifications and designs are subject to change without notice.

Parts Layout on P.W.Boards and Wiring Diagram (2/2)

MAIN P.W.Board (Foil Side View)



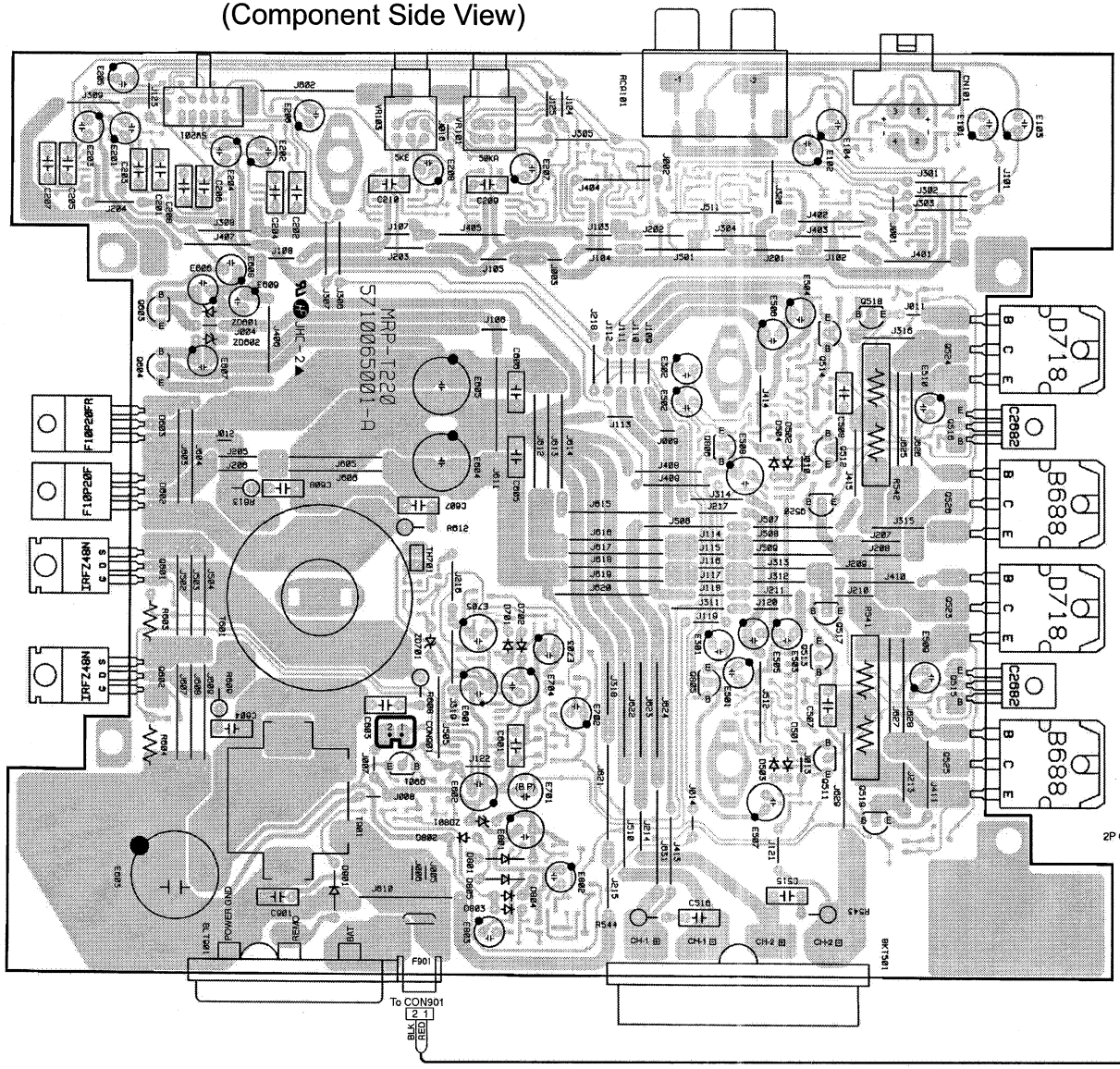
Blue Color Pattern:Foil Side Pattern

1 2 3 4 5

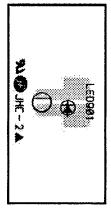
A B C D E F G

Parts Layout on P.W.Boards and Wiring Diagram (1/2)

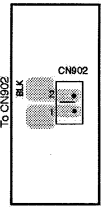
MAIN P.W.Board
(Component Side View)



LED P.W.Board
(Component Side View)



LED P.W.Board
(Foil Side View)



Blue Color Pattern:Foil Side Pattern

1 2 3 4 5

A B C D E F G

Schematic Diagram

Terminal Voltage of IC/TR

IC101	
1	6.0mV
2	6.0mV
3	4.8mV
4	-15.5V
5	0V
6	5.6mV
7	5.6mV
8	15.6V

IC102	
1	5.1mV
2	5.1mV
3	4.5mV
4	-15.5V
5	0V
6	4.9mV
7	4.9mV
8	15.6V

IC103	
1	0V
2	3.7mV
3	3.0mV
4	-15.5V
5	0V
6	3.4mV
7	0V
8	15.6V

IC104	
1	6.6mV
2	6.6mV
3	6.8mV
4	-15.5V
5	6.8mV
6	7.7mV
7	7.9mV
8	15.6V

IC201	
1	9.2mV
2	9.2mV
3	8.8mV
4	-15.5V
5	0V
6	12.9mV
7	12.9mV
8	15.6V

IC202	
1	9.4mV
2	9.4mV
3	8.9mV
4	-15.5V
5	0V
6	12.0mV
7	12.0mV
8	15.6V

IC203	
1	6.7mV
2	6.7mV
3	6.1mV
4	-15.5V
5	6.7mV
6	7.8mV
7	7.9mV
8	15.6V

IC204	
1	6.5mV
2	6.5mV
3	6.0mV
4	-15.5V
5	11.3mV
6	12.0mV
7	12.0mV
8	15.6V

IC601							
1	0V	5	1.69V	9	5.76V	13	4.94V
2	4.9mV	6	3.67V	10	5.74V	14	4.94V
3	80mV	7	0V	11	14.33V	15	4.94V
4	0.18V	8	14.33V	12	14.33V	16	0V

Ref.No.	E	C	B	Ref.No.	E	C	B
Q501	25.6V	24.9V	25.0V	Q509	-25.7V	-0.61V	-25.1V
Q502	25.6V	24.9V	25.0V	Q510	-25.7V	-0.61V	-25.1V
Q503	25.6V	24.9V	25.0V	Q511	-25.8V	-1.08V	-25.1V
Q504	25.6V	24.9V	25.0V	Q512	-25.8V	-1.1V	-25.1V
Q505	-0.61V	24.9V	0V	Q513	25.4V	1.1V	24.8V
Q506	-0.61V	24.9V	0V	Q514	25.4V	1.1V	24.8V
Q507	-0.61V	25.0V	0V	Q515	-1.11V	1.11V	-0.47V
Q508	-0.61V	25.0V	0V	Q516	-1.1V	1.1V	-0.46V

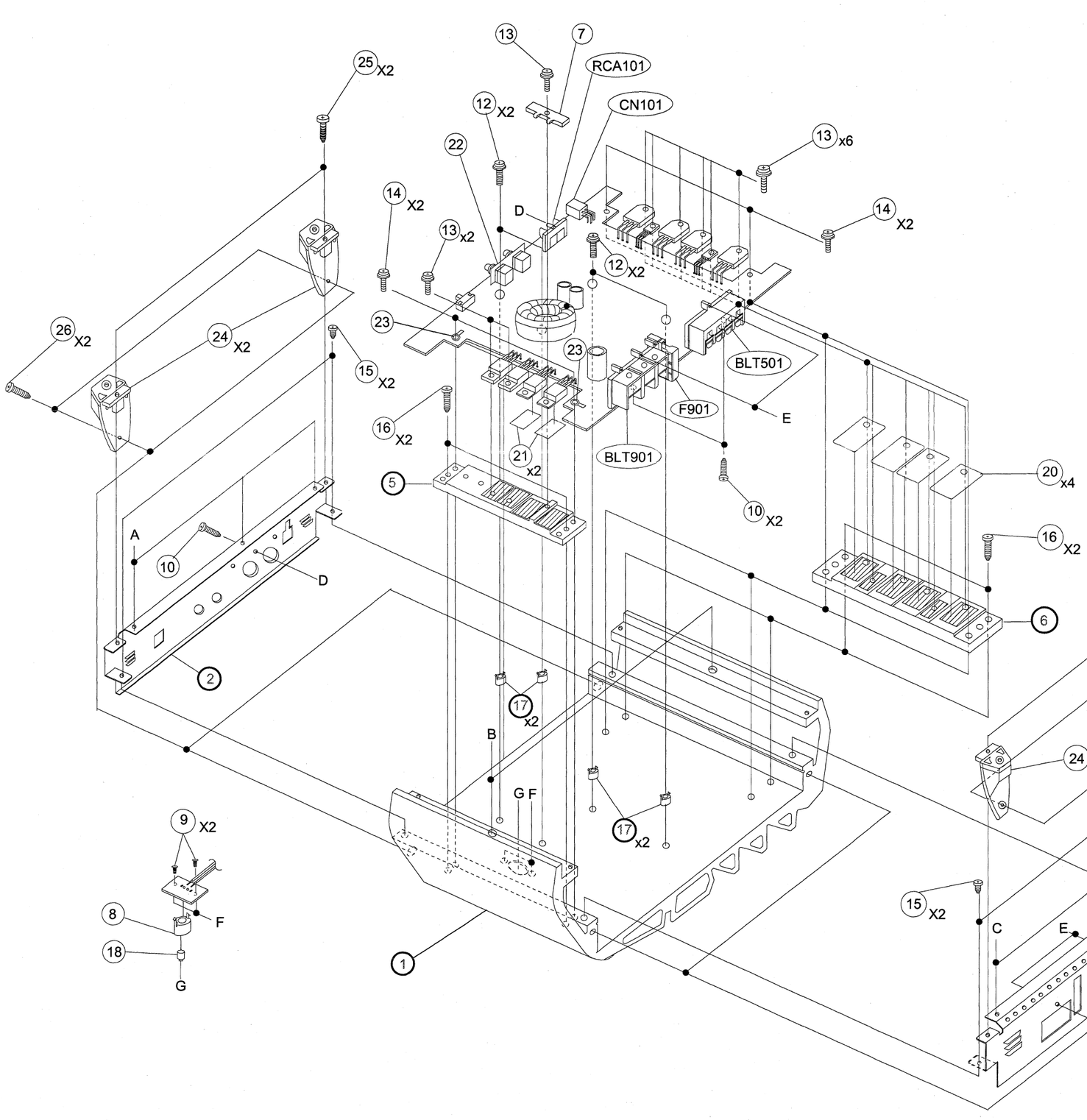
Ref.No.	E	C	B	Ref.No.	E	C	B
Q517	0.52V	25.7V	1.1V	Q703	25.7V	0V	25.4V
Q518	0.54V	25.7V	1.1V	Q704	25.6V	0V	25.3V
Q519	-0.51V	-26.3V	-1.09V	Q705	0V	4.94V	0V
Q520	-0.53V	-26.3V	-1.11V	Q706	4.94V	-2.39V	4.98V
Q521	0V	25.6V	0V	Q707	0V	14.4V	0V
Q522	0V	25.6V	0V	Q801	6.48V	0V	6.48V
Q523	0V	25.7V	0.54V	Q802	14.4V	-7.76V	14.4
Q524	0V	25.7V	0.54V	Q803	0V	14.4V	0V
Q525	0V	-26.2V	-0.53V	Q804	0V	0V	0.55V
Q526	0V	-26.2V	-0.53V	Q805	0V	0V	-7.76V
Q603	15.64V	25.7V	16.17V	Q806	0V	0V	-7.76V
Q604	-15.5V	-26.3V	-16.1V	Q901	14.4V	14.33V	13.69
Q701	0V	25.6V	0V	Q902	0V	0V	3.6V
Q702	0V	25.4V	0V				

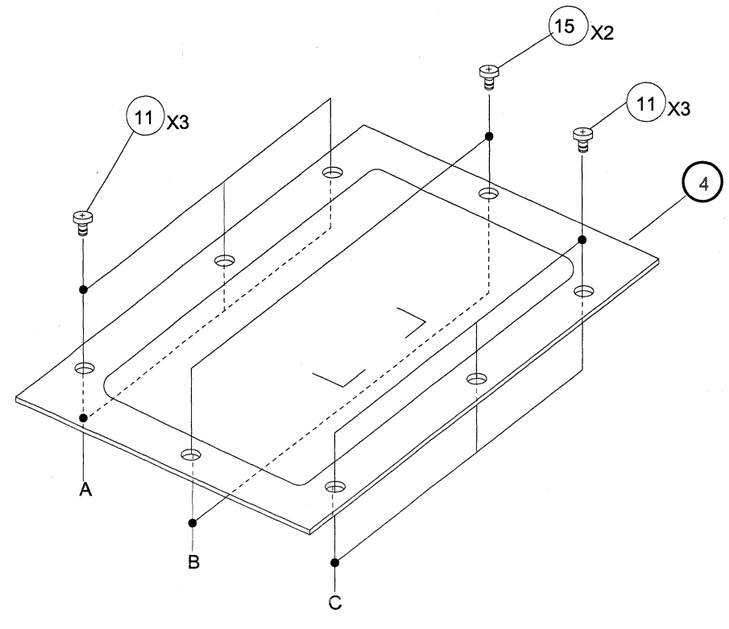
Ref.No.	G	D	S
Q601	5.7V	14.4V	0V
Q602	5.7V	14.4V	0V

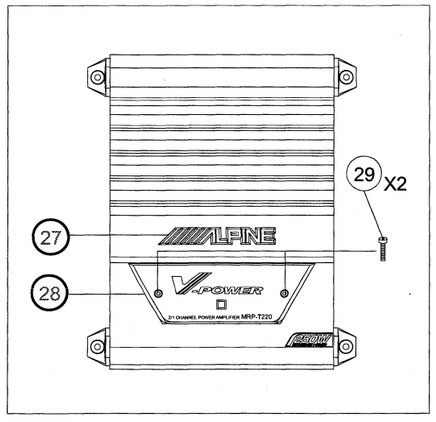
[Measuring Conditions]

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Meter
3. Measuring Point Reference : Between GND
4. Measuring Condition : No Signal Input

Exploded View (Cabinet)







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Cabinet Assembly Parts List

Note : *The part that has not PART NUMBER will not be supplied.

7	07E11146S01	BKT,TR
8	15E34943S01	HOLDER,LED
9	03E24424S01	SCR,M2.6X5(B)TPG-TPT(YEL)
10	03E09416S10	SCR,M3X8(P)TPG-TPT(BLK)
11	03E22133S01	SCR,M2.6X6(B)MCH-TPT(BLK)
12	03E29347S01	SCR,M3x11(W)TPG-TPT(YEL)
13	03E20922S01	SCR,M3X11(S.W)TPG-TPT(YEL)
14	03E34940S01	SCR,M3X14(SW)TPG-TPT(YEL)
15	03E20077S01	SCR,M3X6(B)TPG-TPT(BLK)
16	03E09417S10	SCR,M3X10(B)TPG-TPT(YEL)
18	61E34941S01	LENS,LED
20	14E11487S01	INSULATOR,SHEET-B
21	14E20977S01	INSULATOR,SHEET-A
22	07E27744S01	BKT, GND-(A)
23	29E23793S01	LUG,GND
24	29E34942S01	LEG,MTG
25	03E34938S01	SCR,M3X11(B)MCH-TPT(BLK)
26	03E20919S01	SCR,M3X8(B)TPG-TPT(BLK)
29	03E34939S01	WRENCH BOLT,M2.6X11(WHT)

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Electrical Parts List

*******MAIN P.W.Board		
=======IC's		
IC101	51E22130S01	IC, NJM 4560M-TE3
IC102	51E22130S01	IC, NJM 4560M-TE3
IC103	51E22130S01	IC, NJM 4560M-TE3
IC104	51E22130S01	IC, NJM 4560M-TE3
IC201	51E22130S01	IC, NJM 4560M-TE3
IC202	51E22130S01	IC, NJM 4560M-TE3
IC203	51E22130S01	IC, NJM 4560M-TE3
IC204	51E22130S01	IC, NJM 4560M-TE3
IC601	51E27890S01	IC,uPC 494GS
=======Transistors/FET's		
Q501	48E22900S01	TR,2SA1037K-Q,R,S-CP
Q502	48E22900S01	TR,2SA1037K-Q,R,S-CP
Q503	48E22900S01	TR,2SA1037K-Q,R,S-CP
Q504	48E22900S01	TR,2SA1037K-Q,R,S-CP
Q505	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q506	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q507	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q508	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q509	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q510	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q511	48E09088S01	TR,KTC 3198-Y-RD
Q512	48E09088S01	TR,KTC 3198-Y-RD
Q513	48E09036S02	TR,KTA 1266-Y-RD
Q514	48E09036S02	TR,KTA 1266-Y-RD
Q515	48E08329S01	TR,KSC 2682-Y
Q516	48E08329S01	TR,KSC 2682-Y
Q517	48E23701S01	TR KTC 3228-0-RD
Q518	48E23701S01	TR KTC 3228-0-RD
Q519	48E23700S01	TR KTA 1275-0-RD
Q520	48E23700S01	TR KTA 1275-0-RD
Q521	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q522	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q523	48E27748S01	TR,KTD 718-O
Q524	48E27748S01	TR,KTD 718-O
Q525	48E27747S01	TR,KTB 688-O
Q526	48E27747S01	TR,KTB 688-O
Q601	48E29405S01	FET, IRFZ48N
Q602	48E29405S01	FET, IRFZ48N
Q603	48E23701S01	TR KTC 3228-0-RD
Q604	48E23700S01	TR KTA 1275-0-RD
Q701	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q702	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q703	48E22900S01	TR,2SA1037K-Q,R,S-CP
Q704	48E22900S01	TR,2SA1037K-Q,R,S-CP
Q705	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q706	48E22900S01	TR,2SA1037K-Q,R,S-CP

Q707	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q801	48E22900S01	TR,2SA1037K-Q,R,S-CP
Q802	48E23697S01	TR,DTA 144EK-T146-CP
Q803	48E22555S01	TR,DTC 144EK-T146-CP
Q804	48E22902S01	TR,2SC2412K-Q,R,S-T146-CP
Q805	48E31104S01	TR,KTC2874-B-RD
Q806	48E31104S01	TR,KTC2874-B-RD
Q901	48E23700S01	TR KTA 1275-0-RD
Q902	48E22903S01	TR,DTC 143EK-T-146-CP
=======Diodes		
D501	48E22916S01	DIO,1SS133-T-77-AX
D502	48E22916S01	DIO,1SS133-T-77-AX
D503	48E22916S01	DIO,1SS133-T-77-AX
D504	48E22916S01	DIO,1SS133-T-77-AX
D602	48T65059W01	DIO,REC F10P20F
D603	48T65059W02	DIO,REC F10P20FR
D701	48E22916S01	DIO,1SS133-T-77-AX
D702	48E22916S01	DIO,1SS133-T-77-AX
D801	48E23703S01	DIO,1N 4003-AX
D802	48E22916S01	DIO,1SS133-T-77-AX
D803	48E22916S01	DIO,1SS133-T-77-AX
D804	48E22916S01	DIO,1SS133-T-77-AX
D805	48E23703S01	DIO,1N 4003-AX
D901	48E23703S01	DIO,1N 4003-AX
ZD601	48E22436S01	DIO,ZEN,MTZ-J-16-B-AX
ZD602	48E22436S01	DIO,ZEN,MTZ-J-16-B-AX
ZD701	48E08332S01	DIO,ZEN,MTZ-J-22-B-AX
ZD801	48E22917S01	DIO,ZEN,MTZ-J-6.8-A-AX
=======Coil		
T901	24E26126S01	CHOKE TRANS 28m/m
=======Thermistor		
TH701	48E20887S01	TH,YTD5-320(20K)-YEL
=======Transfomer		
T601	25E29257S01	ASS'Y POWER TRANS (7T/13T)
=======Switch		
SW201	40E20895S01	S/W SSAF 123NA (FILTER(80Hz))
=======Capacitors		
C103	08E28764S01	CAP,CER 101-J-SL1H-CP
C104	08E28764S01	CAP,CER 101-J-SL1H-CP
C105	08E28764S01	CAP,CER 101-J-SL1H-CP
C106	08E28764S01	CAP,CER 101-J-SL1H-CP
C107	08E28760S01	CAP,CER 10R-D-SL1H-CP
C108	08E28760S01	CAP,CER 10R-D-SL1H-CP
C109	08E28760S01	CAP,CER 10R-D-SL1H-CP
C110	08E28760S01	CAP,CER 10R-D-SL1H-CP
C111	08E28762S01	CAP,CER 33R-J-SL1H-CP
C112	08E28762S01	CAP,CER 33R-J-SL1H-CP
C113	08E28760S01	CAP,CER 10R-D-SL1H-CP
C114	08E28760S01	CAP,CER 10R-D-SL1H-CP
C115	08E28769S01	CAP,CER 102-K-SL1H-CP
C121	08E28769S01	CAP,CER 102-K-SL1H-CP

C123	08E28769S01	CAP,CER 102-K-SL1H-CP
C124	08E28769S01	CAP,CER 102-K-SL1H-CP
C201	08E33406S01	CAP,MYL,333-J-RD(8.0*12)
C202	08E33406S01	CAP,MYL,333-J-RD(8.0*12)
C203	08E34952S01	CAP,MYL,822-J-RD
C204	08E34952S01	CAP,MYL,822-J-RD
C205	08E34953S01	CAP,MYL,183-J-RD
C206	08E34953S01	CAP,MYL,183-J-RD
C207	08E34953S01	CAP,MYL,183-J-RD
C208	08E34953S01	CAP,MYL,183-J-RD
C209	08E33353S01	CAP,MYL,223-J-RD(7.1*12)
C210	08E33353S01	CAP,MYL,223-J-RD(7.1*12)
C211	08E28760S01	CAP,CER 10R-D-SL1H-CP
C212	08E28760S01	CAP,CER 10R-D-SL1H-CP
C501	08E31814S01	CAP,CER 561-K-SL1H-CP
C502	08E31814S01	CAP,CER 561-K-SL1H-CP
C503	08E28769S01	CAP,CER 102-K-SL1H-CP
C504	08E28769S01	CAP,CER 102-K-SL1H-CP
C505	08E32049S01	CAP,CER 5R0-C-SL1H-CP
C506	08E32049S01	CAP,CER 5R0-C-SL1H-CP
C507	08E33405S01	CAP,MYL,103-J-RD(5.0*12)
C508	08E33405S01	CAP,MYL,103-J-RD(5.0*12)
C509	08E29171S01	CAP,CER 18R-J-SL1H-CP
C510	08E29171S01	CAP,CER 18R-J-SL1H-CP
C511	08E31812S01	CAP,CER 68R-J-SL1H-CP
C512	08E31812S01	CAP,CER 68R-J-SL1H-CP
C513	08E31812S01	CAP,CER 68R-J-SL1H-CP
C514	08E31812S01	CAP,CER 68R-J-SL1H-CP
C515	08E33668S01	CAP,MYL,473-J-RD(9.0*12)
C516	08E33668S01	CAP,MYL,473-J-RD(9.0*12)
C601	08E25318S01	CAP,TF,AMCS 152-J-RD
C603	08E33353S01	CAP,MYL,223-J-RD(7.1*12)
C604	08E33353S01	CAP,MYL,223-J-RD(7.1*12)
C605	08E33668S01	CAP,MYL,473-J-RD(9.0*12)
C606	08E33668S01	CAP,MYL,473-J-RD(9.0*12)
C607	08E33405S01	CAP,MYL,103-J-RD(5.0*12)
C608	08E33405S01	CAP,MYL,103-J-RD(5.0*12)
C901	08E31021S01	CAP, MF 154-J-63V-RD
E101	23E33350S01	CAP,ELEC,SHL 10/50-M-RD
E102	23E33350S01	CAP,ELEC,SHL 10/50-M-RD
E103	23E33350S01	CAP,ELEC,SHL 10/50-M-RD
E104	23E33350S01	CAP,ELEC,SHL 10/50-M-RD
E201	23E33398S01	CAP,ELEC,SHL 2.2/50-M-RD
E202	23E33398S01	CAP,ELEC,SHL 2.2/50-M-RD
E203	23E34948S01	CAP ELEC SHL 0.22/50-M-RD
E204	23E34948S01	CAP ELEC SHL 0.22/50-M-RD
E205	23E34949S01	CAP,ELEC,SHL 0.33/50-M-RD
E206	23E34949S01	CAP,ELEC,SHL 0.33/50-M-RD
E207	23E33398S01	CAP,ELEC,SHL 2.2/50-M-RD
E208	23E33398S01	CAP,ELEC,SHL 2.2/50-M-RD
E301	23E33351S01	CAP,ELEC,SHL 22/50-M-RD
E302	23E33351S01	CAP,ELEC,SHL 22/50-M-RD

E501	23E33351S01	CAP,ELEC,SHL 22/50-M-RD
E502	23E33351S01	CAP,ELEC,SHL 22/50-M-RD
E503	23E33664S01	CAP,ELEC,SHL 0.47/50-M-RD
E504	23E33664S01	CAP,ELEC,SHL 0.47/50-M-RD
E505	23E33664S01	CAP,ELEC,SHL 0.47/50-M-RD
E506	23E33664S01	CAP,ELEC,SHL 0.47/50-M-RD
E507	23E33663S01	CAP,ELEC,SHL 220/10-M-RD
E508	23E33663S01	CAP,ELEC,SHL 220/10-M-RD
E509	23E33398S01	CAP,ELEC,SHL 2.2/50-M-RD
E510	23E33398S01	CAP,ELEC,SHL 2.2/50-M-RD
E601	23E34950S01	CAP ELEC SHL 10/25-M-RD
E602	23E34950S01	CAP ELEC SHL 10/25-M-RD
E603	23E29269S01	CAP,ELEC,3300/16-M
E604	23E34951S01	CAP ELEC SHL 1000/35-M-RD
E605	23E34951S01	CAP ELEC SHL 1000/35-M-RD
E606	23E33664S01	CAP,ELEC,SHL 0.47/50-M-RD
E607	23E33664S01	CAP,ELEC,SHL 0.47/50-M-RD
E608	23E33348S01	CAP,ELEC,SHL 47/25-M-RD
E609	23E33348S01	CAP,ELEC,SHL 47/25-M-RD
E701	23E11142S01	CAP,ELEC,100/10-M-BP-RD
E702	23E33398S01	CAP,ELEC,SHL 2.2/50-M-RD
E703	23E33401S01	CAP,ELEC,SHL 100/10-M-RD
E704	23E33663S01	CAP,ELEC,SHL 220/10-M-RD
E705	23E34950S01	CAP ELEC SHL 10/25-M-RD
E801	23E33663S01	CAP,ELEC,SHL 220/10-M-RD
E802	23E34950S01	CAP ELEC SHL 10/25-M-RD
E803	23E34950S01	CAP ELEC SHL 10/25-M-RD
=======Resistors		
CJ001	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ002	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ003	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ004	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ005	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ006	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ007	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ008	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ009	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ010	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ011	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ012	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ013	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ014	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ015	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ016	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ017	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ018	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ019	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ021	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ022	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ023	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ024	06E22039S01	RES,CF,0R0-J-1/8-CP
CJ025	06E22039S01	RES,CF,0R0-J-1/8-CP

R101	06E28535S01	RES,CF,223-J-1/16-CP
R102	06E28535S01	RES,CF,223-J-1/16-CP
R103	06E32035S01	RES,CF,113-J-1/16-CP
R104	06E23685S01	RES,CF,113-J-1/8-CP
R105	06E32035S01	RES,CF,113-J-1/16-CP
R106	06E32035S01	RES,CF,113-J-1/16-CP
R107	06E28535S01	RES,CF,223-J-1/16-CP
R108	06E28535S01	RES,CF,223-J-1/16-CP
R109	06E28533S01	RES,CF,102-J-1/16-CP
R110	06E28533S01	RES,CF,102-J-1/16-CP
R111	06E28788S01	RES,CF,122-J-1/16-CP
R112	06E28788S01	RES,CF,122-J-1/16-CP
R113	06E32037S01	RES,CF,124-J-1/16-CP
R114	06E32037S01	RES,CF,124-J-1/16-CP
R115	06E32037S01	RES,CF,124-J-1/16-CP
R116	06E32037S01	RES,CF,124-J-1/16-CP
R117	06E33657S01	RES,CF,153-F-1/16-CP
R118	06E33657S01	RES,CF,153-F-1/16-CP
R119	06E33657S01	RES,CF,153-F-1/16-CP
R120	06E33657S01	RES,CF,153-F-1/16-CP
R121	06E33657S01	RES,CF,153-F-1/16-CP
R122	06E33657S01	RES,CF,153-F-1/16-CP
R123	06E33657S01	RES,CF,153-F-1/16-CP
R124	06E33657S01	RES,CF,153-F-1/16-CP
R125	06E28622S01	RES,CF,682-J-1/16-CP
R126	06E28622S01	RES,CF,682-J-1/16-CP
R127	06E28622S01	RES,CF,682-J-1/16-CP
R128	06E28622S01	RES,CF,682-J-1/16-CP
R129	06E31152S01	RES,CF,152-J-1/16-CP
R130	06E31152S01	RES,CF,152-J-1/16-CP
R131	06E32033S01	RES,CF,911-J-1/16-CP
R132	06E32033S01	RES,CF,911-J-1/16-CP
R201	06E31803S01	RES,CF,513-J-1/16-CP
R202	06E31803S01	RES,CF,513-J-1/16-CP
R203	06E32037S01	RES,CF,124-J-1/16-CP
R204	06E32037S01	RES,CF,124-J-1/16-CP
R205	06E32037S01	RES,CF,124-J-1/16-CP
R206	06E32037S01	RES,CF,124-J-1/16-CP
R207	06E23735S01	RES,CF,911-J-1/8-CP
R208	06E23735S01	RES,CF,911-J-1/8-CP
R209	06E31160S01	RES,CF,473-J-1/16-CP
R210	06E31160S01	RES,CF,473-J-1/16-CP
R211	06E31163S01	RES,CF,224-J-1/16-CP
R212	06E31163S01	RES,CF,224-J-1/16-CP
R213	06E28794S01	RES,CF,273-J-1/16-CP
R214	06E28794S01	RES,CF,273-J-1/16-CP
R217	06E29209S01	RES,CF,512-J-1/8-CP
R218	06E29209S01	RES,CF,512-J-1/8-CP
R219	06E31683S01	RES,CF,154-J-1/16-CP
R220	06E31683S01	RES,CF,154-J-1/16-CP
R221	06E31156S01	RES,CF,512-J-1/16-CP
R222	06E31156S01	RES,CF,512-J-1/16-CP

R223	06E23736S01	RES,CF,152-J-1/8-CP
R224	06E23736S01	RES,CF,152-J-1/8-CP
R225	06E31156S01	RES,CF,512-J-1/16-CP
R226	06E31156S01	RES,CF,512-J-1/16-CP
R301	06E28791S01	RES,CF,912-J-1/16-CP
R302	06E28791S01	RES,CF,912-J-1/16-CP
R303	06E33277S01	RES,CF,432-J-1/16-CP
R304	06E33277S01	RES,CF,432-J-1/16-CP
R501	06E28788S01	RES,CF,122-J-1/16-CP
R502	06E28788S01	RES,CF,122-J-1/16-CP
R503	06E28792S01	RES,CF,123-J-1/16-CP
R504	06E28792S01	RES,CF,123-J-1/16-CP
R505	06E31172S01	RES,CF,47R-J-1/16-CP
R506	06E31172S01	RES,CF,47R-J-1/16-CP
R507	06E31172S01	RES,CF,47R-J-1/16-CP
R508	06E31172S01	RES,CF,47R-J-1/16-CP
R509	06E28548S01	RES,CF,471-J-1/16-CP
R510	06E28548S01	RES,CF,471-J-1/16-CP
R511	06E28786S01	RES,CF,331-J-1/16-CP
R512	06E28786S01	RES,CF,331-J-1/16-CP
R513	06E34946S01	RES,CF,241-J-1/16-CP
R514	06E34946S01	RES,CF,241-J-1/16-CP
R515	06E32032S01	RES,CF,111-J-1/16-CP
R516	06E32032S01	RES,CF,111-J-1/16-CP
R517	06E31172S01	RES,CF,47R-J-1/16-CP
R518	06E31172S01	RES,CF,47R-J-1/16-CP
R519	06E28788S01	RES,CF,122-J-1/16-CP
R520	06E28788S01	RES,CF,122-J-1/16-CP
R521	06E28950S01	RES,CF,823-J-1/8-CP
R522	06E28950S01	RES,CF,823-J-1/8-CP
R523	06E34947S01	RES,CF,163-J-1/16-CP
R524	06E34947S01	RES,CF,163-J-1/16-CP
R525	06E33234S01	RES,CF,752-J-1/16-CP
R526	06E33234S01	RES,CF,752-J-1/16-CP
R527	06E31174S01	RES,CF,332-J-1/16-CP
R528	06E31174S01	RES,CF,332-J-1/16-CP
R529	06E34945S01	RES,CF,181-J-1/8-CP
R530	06E34945S01	RES,CF,181-J-1/8-CP
R531	06E34945S01	RES,CF,181-J-1/8-CP
R532	06E34945S01	RES,CF,181-J-1/8-CP
R533	06E24395S01	RES,CF, 181R-J-1/4-CP
R534	06E24395S01	RES,CF, 181R-J-1/4-CP
R535	06E28534S01	RES,CF,103-J-1/16-CP
R536	06E28534S01	RES,CF,103-J-1/16-CP
R537	06E22030S01	RES,CF,102-J-1/8-CP
R538	06E28533S01	RES,CF,102-J-1/16-CP
R539	06E31152S01	RES,CF,152-J-1/16-CP
R540	06E31152S01	RES,CF,152-J-1/16-CP
R541	06E32024S01	RES, MPR 0.1J-3WX2
R542	06E32024S01	RES, MPR 0.1J-3WX2
R543	06E20907S01	RES MO 1W ERG 1SJ 100E-RD
R544	06E20907S01	RES MO 1W ERG 1SJ 100E-RD

R545	06E28792S01	RES,CF,123-J-1/16-CP
R546	06E28792S01	RES,CF,123-J-1/16-CP
R601	06E31175S01	RES,CF,822-J-1/16-CP
R602	06E28793S01	RES,CF,183-J-1/16-CP
R603	06E23702S01	RES,MO,221-J-1/2W-AX
R604	06E23702S01	RES,MO,221-J-1/2W-AX
R605	06E22040S01	RES,CF,10R-J-1/10-CP
R606	06E22040S01	RES,CF,10R-J-1/10-CP
R608	06E20907S01	RES MO 1W ERG 1SJ 100E-RD
R609	06E20907S01	RES MO 1W ERG 1SJ 100E-RD
R610	06E22929S01	RES,CF, 332-J-1/4-CP
R611	06E22929S01	RES,CF, 332-J-1/4-CP
R612	06E20907S01	RES MO 1W ERG 1SJ 100E-RD
R613	06E20907S01	RES MO 1W ERG 1SJ 100E-RD
R701	06E28533S01	RES,CF,102-J-1/16-CP
R702	06E28533S01	RES,CF,102-J-1/16-CP
R703	06E28533S01	RES,CF,102-J-1/16-CP
R704	06E31174S01	RES,CF,332-J-1/16-CP
R705	06E28533S01	RES,CF,102-J-1/16-CP
R706	06E28548S01	RES,CF,471-J-1/16-CP
R707	06E28537S01	RES,CF,104-J-1/16-CP
R708	06E31157S01	RES,CF,203-J-1/16-CP
R709	06E28790S01	RES,CF,562-J-1/16-CP
R710	06E31800S01	RES,CF,151-J-1/16-CP
R711	06E22036S01	RES,CF,223-J-1/8-CP
R712	06E31157S01	RES,CF,203-J-1/16-CP
R713	06E28534S01	RES,CF,103-J-1/16-CP
R714	06E28534S01	RES,CF,103-J-1/16-CP
R715	06E31806S01	RES,CF,244-J-1/16-CP
R716	06E32048S01	RES,CF,514-J-1/16-CP
R717	06E28549S01	RES,CF,472-J-1/16-CP
R718	06E28796S01	RES,CF,623-J-1/16-CP
R719	06E31160S01	RES,CF,473-J-1/16-CP
R720	06E32034S01	RES,CF,202-J-1/16-CP
R801	06E23686S01	RES,CF,123-J-1/8-CP
R802	06E28537S01	RES,CF,104-J-1/16-CP
R803	06E22033S01	RES,CF,472-J-1/8-CP
R804	06E28537S01	RES,CF,104-J-1/16-CP
R805	06E32034S01	RES,CF,202-J-1/16-CP
R806	06E28537S01	RES,CF,104-J-1/16-CP
R807	06E32034S01	RES,CF,202-J-1/16-CP
R808	06E31685S01	RES,CF,105-J-1/16-CP
R809	06E31684S01	RES,CF,684-J-1/16-CP
R810	06E31160S01	RES,CF,473-J-1/16-CP
R811	06E31160S01	RES,CF,473-J-1/16-CP
R812	06E28537S01	RES,CF,104-J-1/16-CP
R813	06E28790S01	RES,CF,562-J-1/16-CP
R814	06E28790S01	RES,CF,562-J-1/16-CP
R901	06E28534S01	RES,CF,103-J-1/16-CP
R902	06E28534S01	RES,CF,103-J-1/16-CP
R903	06E23739S01	RES,CF,154-J-1/8-CP
R904	06E31174S01	RES,CF,332-J-1/16-CP

R905	06E23694S01	RES,CF, 272-J-1/4-CP
R907	06E30008S01	RES,CF,562-J-1/4-CP
VR101	18E20880S01	VR,50KAX2 RK0971210 (GAIN)
VR103	18E27746S01	VR 5KEX2(RK0971210) (BASS EQ)
=======Connector		
CON901	09E27780S01	CONN BASE, GIL-S-02P-S2T2
*******LED P.W.Board		
=======LED		
LED901	48E34944S01	LED-LAMP BLUE,YLB-304W,3
=======Connector		
CN902	01E28616S01	2P CONNECTOR ASS'Y
*******Miscellaneous		
BLT501	09E32029S01	BLOCK TERMINAL 4P (SPEAKER OUTPUT)
BLT901	09E32028S01	FUSE TERMINAL 3P (POWER SUPPLY)
CN101	09E23819S01	CONN BASE 5569-04AI(BLACK) (SPEAKER LEVEL INPUT)
F901	65E25313S01	FUSE,AUTO 20A(257020) (For Battery Line)
RCA101	09E32026S01	RCA JACK 02P(ISLOLATED) (INPUT)